

**POTVRDA O TIPNOM ODOBRENJU**
TYPE APPROVAL CERTIFICATE

Br /No 03-001291/030962

Potvrđuje se da je ovaj proizvod, u skladu s Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda, odobren za ugradnju na brodove i postrojenja pod nadzorom Hrvatskog registra brodova.

This is to certify that this product, on the basis of the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products, is approved for use on board ships and installations under supervision of the Croatian Register of Shipping.

TIP I OPIS PROIZVODA:

TYPE AND DESCRIPTION OF PRODUCT:

BRODSKI ENERGETSKI I KONTROLNI KABEL BEZHALOGENI I TEŠKO GORIVI
SHIPBOARD POWER AND CONTROL CABLE HALOGEN FREE AND FLAME RETARDANT**LKM-HF/LKSM-HF/LKAM-HF/LKSM-EMC 0,6/1 (1,2) kV****PROIZVOĐAČ:**

MANUFACTURER:

HELKAMA BICA Oy

Lakimiehenkatu 4

FIN-20780 Kaarina

FINLAND**PROIZVOD UDOVOLJAVA SLIJEDEĆIM PRAVILIMA/PROPISIMA:**

THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:

HRB PRAVILA ZA KLASIFIKACIJU BRODOVA: DIO 12 - ELEKTRIČNA OPREMA
CRS RULES FOR THE CLASSIFICATION OF SHIPS: PART 12 - ELECTRICAL EQUIPMENT

Helkama specification: HBKQ 9 spec.3, 5, 28 and 59

Technical specification:

Design standard: IEC 60092-353 (3rd ed 2011-08),
Single and multicore non-radial field power cable 0,6/1 kV

Other standards:

- testing: IEC 60092-350 (3rd Ed. 2008-02), General constructions and testing requirements- insulation: IEC 60092-351 (3rd ed. 2004-04), Insulating materials for shipboard power cables- sheathing: IEC 60092-359 (1.2nd ed. 1999-08)

Sheathing materials for shipboard power and telecommunication cables

DETALJI O PROIZVODU I UVJETIMA CERTIFIKACIJE DANI SU NA POLEDINI.

FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.

ODOBRENJE VRIJEDI DO: 2016-02-10

APPROVAL IS VALID UNTIL:

Mjesto i datum: Split, 2012-02-10

Place and date:

M.P.

(Seal)

Goran Begović, dipl.ing.

NAPOMENA: Ova potvrda nije valjana ako se proizvod ili način njegove proizvodnje promijenio u odnosu na tipno ispitani proizvod. Proizvođač treba obavijestiti Hrvatski registar brodova o bilo kojoj izmjeni na proizvodu kako bi ishodio valjanu potvrdu.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

PODROBNIJI OPIS PROIZVODA:*DETAILED PRODUCT DESCRIPTION:*

Multi core power and control cable with stranded plain annealed Cu conductors option tinned conductors, XLPE insulation, halogen free, flame retardant, low smoke, 0.6/1kV

The LKSM-EMC is designed with enhanced Electromagnetic compatibility (EMC) characteristics

LKM-HF-0.6/1 kV (1.2 kV) – (Un-armoured)

LKSM-HF-0.6/1 kV (1.2 kV) – (Armoured, Cu-braid)

LKAM-HF-0.6/1 kV (1.2 kV) – (Screened, Al-polyester tape)

<u>Cable Type</u>	<u>No of Cores</u>	<u>Cross Sect area [mm²]</u>
LKM-HF, LKSM-HF, LKSM-EMC	1	1.0, 1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240, 300
LKM-HF, LKSM-HF, LKSM-EMC	2	1.0, 1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95
LKM-HF, LKSM-HF, LKSM-EMC	3	1.0, 1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240
LKM-HF, LKSM-HF, LKSM-EMC	4	1.0, 1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70, 95, 120, 150, 185, 240
LKM-HF, LKSM-HF, LKSM-EMC	5	1.0, 1.5, 2.5, 4, 6, 10, 16, 25, 35, 50, 70
LKM-HF, LKSM-HF	7, 10, 12, 14, 16, 19, 24, 27, 37	1.0, 1.5, 2.5
LKAM-HF	2, 3, 4, 5, 7, 10, 12, 14, 16, 19, 24, 27, 37	1.0, 1.5, 2.5

PODRUČJE PRIMJENE / POSEBNI GRANIČNI UVJETI:*APPLICATION / LIMITATIONS:*

Fiksna ugradnja na pomorskim brodovima, odobalnim objektima i industriji.

Fixed installation in marine, offshore and industrial use.

DOKUMENTACIJA ZA TIPNO ODOBRENJE:*TYPE APPROVAL DOCUMENTATION:*

Helkama Application on LKM-HF / LKSM-HF / LKAM-HF/ LKSM-EMC 0,6/1 (1,2) kV	2012-01-27
Helkama LKM-HF 0.6/1 kV (1.2 kV) Cable Data Sheet Specification HBKQ 9. Spec 3 incl. App 1, 2 & 3	2011-06-16
Helkama LKSM-HF 0.6/1 kV (1.2 kV) Cable Data Sheet Specification HBKQ 9. Spec 5 incl. App 1, 2 & 3	2011-06-16
Helkama LKSM-EMC 0.6/1 kV, Cable Data Sheet Specification HBKQ 9. Spec 59 with App 1 & 2	2011-06-16
Helkama LKAM-HF 0.6/1 kV (1.2 kV) Cable Data Sheet Specification HBKQ 9 Spec 28 incl. App 1 & 2	2011-06-16

Izveštaj o ispitivanju/ test report:

LKM-HF/1 TT 3 x 1_5; LKAM-HF/ATT 3 x 1_5; TT doc_h/S TT3 x 1_5; TT_LKSM_EMC 3 x 6

OZNAČAVANJE PROIZVODA:*MARKING OF PRODUC:*

LOT ##### LKM-HF (LKSM-HF, LKSM-EMC, LKAM-HF) “number of core” x “size of conductor” mm²
0,6/1 kV + 90°C IEC 60092-353, 60332-3-22 HELKAMA “month-year” and ”length marking”.

Note: Cables with conductor of IEC 60228 class 5 shall be marked on the sheath with “cl. 5”

UVJETI ZA CERTIFIKACIJU:*CONDITIONS FOR CERTIFICATION:*

NON

Raščlana

12.05.01

Zamjenjuje potvrdu

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